

the Leyden Museum, who has paid some attention to the genus.

SYMMERISTA, Hübner.

*Symmerista amazonica*, n. sp.

Primaries above white, speckled with rust-red; some of the scales forming lines as follows:—an oblique irregularly zigzag line limiting the basal area, which is heavily speckled; two dentate sinuate double lines across the disk; a submarginal incomplete series of convergent blackish dashes, and a few blackish scales on the fringe: secondaries pale greyish whity brown with sordid white fringe: body whitish. Under-surface white, the veins and the costal area of primaries brownish. Expanse of wings 2 inches.

Santarem (*Dr. Trail*).

This is another Notodontid, allied to *S. politia* of Cramer, referred also to the Noctuites by Walker.

XXII.—*Preliminary Notices of Deep-Sea Fishes collected during the Voyage of H.M.S. 'Challenger.'* By Dr. ALBERT GÜNTHER, F.R.S., Keeper of the Zoological Department, British Museum.

[Continued from p. 28.]

*Setarches fdjiensis*.

D. 10 |  $\frac{1}{16}$ . A.  $\frac{3}{5}$ . P. 23.

The height of the body is one third of the total length (without caudal), the length of the head two fifths. Head scaleless, without prominent spines on the vertex, but with parallel ridges; interorbital space flat, as wide as the eye, the diameter of which is two ninths of the length of the head and two thirds of that of the snout. Upper jaw overlapping the lower, maxillary extending to below the middle of the eye; very narrow bands of villiform teeth in the jaws and on the vomer and palatine bones. The largest spines of the head are three at the angle of the præoperculum; smaller ones are distributed on the præorbital, the lower præopercular margin, and the operculum. The fourth dorsal spine is the longest, two fifths of the length of the head; the third anal spine is longer than the second. Pectoral extending to the anal fin.

Body covered with minute cycloid scales. Lateral line wide. Body irregularly mottled with brown.

Fidji Islands, 215 fathoms.

*Cottus bathybius.*

D. 5 | 10. A. 7. P. 17. V. 3.

The præoperculum is very strongly armed; there are two spines arising from the same root at the angle, one in front of the other, the posterior being longer than the eye; three other shorter spines along the lower edge of the præoperculum; operculum with a small spine at its antero-inferior angle. A pair of spines on the occiput behind a deep depression occupying nearly the whole of the vertex. Eyes longer than the snout, close together. Minute teeth on the vomer, but none on the palatine bones. Pectoral fin extending beyond the origin of the anal; ventrals not reaching the vent. Muciferous system much developed, opening by wide pores along the lower jaw, the præoperculum, the infraorbital ring, and the lateral line. Greyish brown; throat and all the fins black.

Japanese seas, 565 fathoms.

*Echiostoma microdon.*

D. 24. A. 29. P. 3. V. 7.

The length of the head is more than one fifth of the total (with the caudal). No separate pectoral ray; root of the ventral considerably nearer to the base of the caudal than to the extremity of the snout. All the teeth rather small, a few only in the middle of the palatine bone. Black; two luminous organs below the eye; a narrow elongate one above the maxillary, and a small short one nearer to the eye.

Off the north-west coast of Australia, 2440 fathoms.

*Echiostoma micripnus.*

D. 21. A. 23. P. 1/3. V. 7.

The length of the head is nearly one ninth of the total (with the caudal). Barbel much longer than the head, and fringed at its extremity; the anterior pectoral ray filamentous and distinctly separated from the others. Root of the ventral rather nearer to the extremity of the snout than to the root of the caudal. Black; luminous organ above the maxillary small, round, like a rudimentary eye.

Off the south coast of Australia, 2150 fathoms.

*Malacosteus indicus.*

D. 18. A. 20. P. 2. V. 6.

Closely allied to *M. niger*, but with a pair of long curved fangs on the extremity of the mandible.

Pacific, 500 fathoms.

## BATHYOPHIS, g. n. Stomiatid.

Body extremely narrow and elongate, snake-like, naked. Vent far behind the middle of the length of the body. Head large, compressed, with the snout of moderate length, and with the cleft of the mouth nearly as long as the head. Teeth in the jaws extremely large, numerous, of unequal size, depressible. Similar teeth on the tongue and on each side of the vomer. Eye rather small. Opercular portion of the head narrow. A long barbel anteriorly on the hyoid. The dorsal commences above the ventrals, and extends nearly to the anal; the anal also is long, commencing behind the vent. Pectorals none. Ventrals inserted before the middle of the length of the body. A small phosphorescent organ above the middle of the upper jaw, and a series of small luminous dots along each side of the abdomen and along the outer ventral ray. Similar organs on the tail. Gill-openings extremely wide.

Atlantic.

*Bathyophis ferox.*

D. 60. A. 45. V. 3.

Barbel much longer than the head. Black.

Middle of North Atlantic, 2750 fathoms.

## BATHYSAURUS, g. n. Scopelid.

Shape of the body similar to that of *Saurus*, subcylindrical, elongate, covered with small scales. Head depressed, with the snout produced, flat above. Cleft of the mouth very wide, with the lower jaw projecting; intermaxillary very long, styliiform, tapering, not movable. Teeth in the jaws in broad bands, not covered by lips, curved, unequal in size, and barbed at the end. A series of similar teeth runs along the whole length of each side of the palate; a few teeth on the tongue and groups of small ones on the hyoid. Eye of moderate size, lateral. Pectoral of moderate length. Ventral 8-rayed, inserted immediately behind the pectoral. Dorsal fin in the middle of the length of the body, with about eighteen rays. Adipose fin absent or present. Anal of moderate length.

Caudal emarginate. Gill-openings very wide, the gill-membranes being separate from each other and from the isthmus. Eleven or twelve branchiostegals. Gill-laminæ well developed, separate; gill-rakers tubercular; pseudobranchiæ well developed.

*Bathysaurus ferox.*

D. 18. A. 11. P. 15. V. 8. L. lat. ca. 120.

Adipose fin none.

East coast of New Zealand, 1100 fathoms.

*Bathysaurus mollis.*

D. 15. A. 11. P. 15. V. 8.

Adipose fin present. Rays of the fins, especially the front rays of the dorsal, rather elongate.

Middle of South Pacific; off Yeddo: 1875 and 2385 fathoms.

*Chlorophthalmus nigripinnis.*

B. 7. D. 11. A. 9. L. lat. 50.

Similar to the Mediterranean *Chlorophthalmus Agassizii*. The length of the head is contained thrice and three fourths in the total length (without caudal); the eye is large, two fifths of the length of the head, and three times the width of the interorbital space. The distance of the adipose fin from the dorsal equals that between the latter and the front margin of the eye. Teeth in the jaws, on the vomer and palatine bones, in very narrow bands. Pectoral rather shorter than the ventral, which extends far beyond the vent, the vent being much nearer to the ventral than to the anal. Silvery, with some very indistinct darker spots on the sides of the body; top of the dorsal and extremity of each caudal lobe deep black.

Off Twofold Bay, 120 fathoms.

*Chlorophthalmus gracilis.*

B. 10. D. 11. A. 11. L. lat. 60. L. transv. 6/7.

The length of the head is one fourth of the total length (without caudal); the tail being slender, the distance between the end of the anal and the root of the caudal is not very much less than the length of the head. Distance of the adipose fin from the dorsal equal to that between the latter and the front margin of the eyes. Snout depressed, flat, with the lower jaw prominent; interorbital space broad, more than the vertical

diameter of the eye. Eye large, its horizontal diameter being two ninths of the length of the head and two thirds of that of the snout. Teeth in the jaws *en cardes*, those on the vomer and palatine bones in a single series, the vomerine series being interrupted in the middle. The intermaxillary is toothed along the whole of its length, and extends nearly as far back as the maxillary, the extremity of which reaches to behind the eye. Pectoral considerably longer than the ventral, which does not extend to the vent, the vent being a little nearer to the anal than to the ventral. Origin of the dorsal fin immediately behind the root of the ventral. Scales etenoid; those of the lateral line and between the ventral fins larger than the rest. Uniform brownish black; fins of a lighter colour.

Off the eastern coast of New Zealand; off Juan Fernandez; middle of South Atlantic: 1100, 1375, and 1425 fathoms.

#### BATHYPTEROIS, g. n. Scopelid.

Shape of the body like that of an *Aulopus*. Head of moderate size, depressed in front, with the snout projecting, the large mandible very prominent beyond the upper jaw. Cleft of the mouth wide; maxillary much developed, very movable, much dilated behind. Teeth in narrow villiform bands in the jaws; on each side of the broad vomer a small patch of similar teeth; none on the palatines or on the tongue. Eye very small. Scales eyeloid, adherent, of moderate size. Rays of the pectoral fin much elongate, some of the upper being separate from the rest and forming a distinct division. Ventrals abdominal, with the outer rays prolonged, eight-rayed. Dorsal fin inserted in the middle of the body above, or immediately behind the root of the ventral, of moderate length. Adipose fin present or absent. Anal short. Caudal forked. Gill-openings very wide; gill-laminæ well-developed, separate from each other; gill-rakers long. Pseudo-branchiæ none.

#### *Bathypterois longifilis*.

B. 12. D. 13. A. 9. P. 3/13. V. 8. L. lat. 61.  
L. transv. 6/10.

The uppermost pectoral ray is the strongest, longer than the whole fish, bifid towards its extremity. Outer ventral rays with dilated extremities. Dorsal fin inserted immediately behind the root of the ventrals. An adipose fin.

Near Kermadec Island, 520 and 630 fathoms.

*Bathypterois longipes.*

B. 12. D. 13. A. 10. P. 2/7-8. V. 7. L. lat. 55.  
L. transv. 6/8.

The uppermost pectoral ray is the strongest, about as long as the whole fish, bifid towards its extremity. Outer ventral ray much prolonged, strong, but not dilated at its extremity. Dorsal fin inserted at some distance behind the root of the ventrals. Adipose fin present or absent.

Off the east coast of South America, 2650 fathoms.

*Bathypterois quadrifilis.*

B. 12. D. 14. A. 9. P. 2/9. V. 8. L. lat. 59.  
L. transv. 6/8.

The uppermost and lowermost of the pectoral rays are filiform; the former bifid from near to its base, the latter simple. Outer ventral ray much prolonged, strong, not dilated at its extremity. Dorsal fin inserted close behind the root of the ventrals. Adipose fin present.

Off the coast of Brazil, 770 fathoms.

*Bathypterois longicauda.*

D. 12. A. 9. P. 2/9. V. 8. L. lat. 55.  
L. transv. 6/8.

The uppermost pectoral ray is the strongest, longer than the whole fish, bifid from the middle of its length. The outer ventral ray, bifid nearly from its base, is much prolonged, filiform. Dorsal fin inserted at a considerable distance behind the root of the ventrals, and extending to above the anal. Caudal deeply forked, with the lobes prolonged. Adipose fin present.

Middle of Southern Pacific, 2550 fathoms.

*Scopelus antarcticus.*

D. 15. A. 20. L. lat. 38.

The height of the body is two ninths of the total length (without caudal); the length of the head is contained thrice and two thirds in it; the depth of the head equals its length without snout. The diameter of the eye is somewhat more than one third of the length of the head; distance between the posterior margin of the orbit and the præopercular edge one third of the diameter of the eye. Snout short, obtuse, with its upper profile descending in a strong curve, and with the jaws nearly equal anteriorly. The maxillary reaches to

below the posterior margin of the eye, and is dilated behind. Cleft of the mouth oblique. The origin of the dorsal fin is nearer to the end of the snout than to the root of the caudal, behind the base of the ventrals; its last ray is in the vertical of the fourth or fifth anal ray. The pectoral extends to the middle of the ventral. Scales smooth, deciduous. There are seven round pearl-coloured patches between the adipose fin and the caudal.

Antarctic Ocean, 1975 fathoms.

*Scopelus mizolepis.*

D. 13. A. 9.

Height of the body two sevenths of the total length (without caudal), the length of the head rather less than two fifths; the least depth of the tail is one half of its free portion. Head very thick, with short snout. Eye very small, about one seventh of the length of the head and one half of that of the snout. Posterior margin of the præoperculum subvertical; lower jaw slightly prominent; cleft of the mouth rather oblique; the maxillary reaches to below the eye and is moderately dilated behind. Origin of the dorsal fin somewhat nearer to the extremity of the snout than to the caudal fin, and behind the base of the ventrals, which is below that of the pectorals; the last dorsal ray is above the middle of the anal. Pectoral fin long, extending at least to the middle of the anal fin. Adipose fin none. The scales, which are lost, appear to have been of unusually large size. Black.

South of New Guinea, 800 fathoms.

*Scopelus crassiceps.*

D. 15. A. 9-10. L. lat. 30?

The height of the body is one fourth of the total length (without caudal), the length of the head one third; the least depth of the tail is two fifths of its free portion. Head very thick, with short snout. Eye small, one seventh of the length of the head, and one half of that of the snout; posterior margin of the præoperculum descending obliquely backwards; lower jaw slightly prominent; cleft of the mouth rather oblique; the maxillary reaches to behind the eye, and is moderately dilated behind. Origin of the dorsal fin nearer to the extremity of the snout than to the caudal fin, and immediately behind the base of the ventrals; its last ray is above the anterior anal rays. Pectoral fin long, reaching to or beyond the end of the anal fin. Black.

Atlantic and Antarctic Oceans, 675-1500 fathoms.

*Scopelus macrostoma.*

D. 13. A. 13.

The body is highest where it joins the head, and rather rapidly becomes lower towards the tail; its greatest depth is rather more than one fourth of the total length (without caudal), the length of the head one third. Head thick, with the snout of moderate length, obtuse, and with the jaws equal in front. Bones of the head thin and flexible. Eye small, not quite one sixth of the length of the head, and two thirds of that of the snout. Posterior margin of the operculum oblique, rounded. Operculum narrow, membranaceous. Cleft of the mouth oblique, very wide, the maxillary reaching far behind the eye, viz. to the mandibular joint; it is obliquely dilated behind. Origin of the dorsal fin but little nearer to the extremity of the snout than to the root of the caudal, and not much in advance of the vent; its last ray opposite to the last ray of the anal. Pectoral rather small, scarcely extending to the origin of the dorsal. Ventral small, with five rays only; the caudal rays extend a considerable distance forward on the upper as well as lower sides of the tail. Transparent, with the sides of the head and the abdomen black.

Mid Pacific, 2425 fathoms.

*Scopelus microps.*

D. 21. A. 9. L. lat. 35.

The height of the body is one fourth of the total length (without caudal), the length of the head one third; the least depth of the tail is two fifths of its free portion. Head thick, with short snout; the skin with which it is covered shows a peculiar longitudinal striation, and is pierced by very conspicuous pores. Eye small, one seventh of the length of the head, and more than one half of that of the snout. Posterior margin of the præoperculum nearly vertical. Lower jaw prominent. Cleft of the mouth oblique; the maxillary reaches to below the posterior margin of the eye, and is slightly dilated behind. Origin of the dorsal fin behind the base of the ventrals, its length being two thirds of its distance from the snout. Its last ray is opposite to the first anal ray. Pectoral fin rather long, but not extending to the vent. Uniform black.

Mid ocean, between Cape of Good Hope and Kerguelen's Land, 1375 fathoms.

IPNOPS, g. n. Scopelid.

Body elongate, subcylindrical, covered with large thin



deciduous scales, and without phosphorescent organs. Head depressed, with broad, long, spatulate snout, the whole upper surface of which is occupied by a most peculiar organ of vision (or luminosity), longitudinally divided into two symmetrical halves. Bones of the head well ossified. Mouth wide, with the lower jaw projecting; maxillary dilated behind. Both jaws with narrow bands of villiform teeth; palate toothless. Pectoral and ventral fins well developed, and, owing to the shortness of the trunk, close together. Dorsal fin at a short distance behind the vent; adipose fin none. Anal fin moderately long. Caudal subtruncated. Pseudo-branchiæ none.

*Ipnops Murrayi.*

B. 12. D. 10. A. 13. V. 8. L. lat. 55.

Vent nearly twice as distant from the root of the caudal as from the extremity of the snout.

South Atlantic, 1600–1900 fathoms.

*Gonostoma elongatum.*

D. 13. A. 29. V. 7.

The cheek is not entirely covered by the infraorbital. Dentition as in *G. denudatum*. The height of the body is one seventh of the total length (without caudal), the length of the head two ninths.

South of New Guinea, 800 fathoms.

*Gonostoma gracile.*

D. 10. A. 26. V. 6.

Apparently scaleless. The cheek is not entirely covered by the infraorbital. The larger teeth in the upper jaw rather numerous. The height of the body is one ninth of the total length, the length of the head one fifth. Tail very slender and narrow. Adipose fin none.

South of Japan, 345 and 2425 fathoms.

*Gonostoma microdon.*

D. 13. A. 18–21.

Cheek naked. Teeth in the upper jaw very fine and numerous, with some larger ones placed at regular intervals. Eyes small.

Atlantic and Pacific, 500–2900 fathoms.

[To be continued.]